

## **REMARKS**

### **Status**

This Amendment is responsive to the Office Action dated October 24, 2008, in which Claims 1-17 were rejected. Claims 1, 16 and 17 have been amended; no claims have been cancelled. Accordingly, Claims 1-17 are pending in the application, and are presented for reconsideration and allowance.

### **Claim Rejection - 35 USC 101**

Claims 16 and 17 stand rejected under 35 USC 101 as non-statutory. This rejection is respectfully traversed.

Claims 16 and 17 have been amended in view of the Examiner's comments and withdrawal of the rejection is requested

### **Claim Rejection - 35 USC 103**

Claims 1-11 stand rejected under 35 USC 103 as being unpatentable over US Patent No. 6,951,536 (Yokoi), newly cited US Patent application 2002/017779 (Adler) and PCT WO 01/99703 A2 (Nemeth).

Claims 12-15 stand rejected under 35 USC 103 as being unpatentable over US Patent No. 6,951,536 (Yokoi), newly cited US Patent application 2002/017779 (Adler), PCT WO 01/99703 A2 (Nemeth) and US Patent No. 5,836,872 (Kenet).

Claim 16 stands rejected under 35 USC 103 as being unpatentable over US Patent No. 6,951,536 (Yokoi), newly cited US Patent application 2002/017779 (Adler) and PCT WO 01/99703 A2 (Nemeth).

Claim 17 stands rejected under 35 USC 103 as being unpatentable over US Patent No. 6,951,536 (Yokoi), newly cited US Patent application 2002/017779 (Adler), PCT WO 01/99703 A2 (Nemeth) and US Patent No. 6,470,092 (Li).

These rejections are respectfully traversed.

With respect to claim 1, the Office Action on page 4 acknowledges that the prior art of Yokoi does not teach, among other things, image processing in vivo images in the examination bundlette in a generalized R and G color space for

robust disease detection and using color image processing algorithms to automatically diagnose one or more abnormalities in one or more of the in vivo images in the generalized R and G color space using generalized R and G colors in the in vivo images. The Examiner looks to Adler for these features.

However, Adler uses the three color parameters of hue H, saturation S and luminance (brightness) V where:

Hue H represents a number related to the dominant wavelength of the color stimulus, and varies from 0 to 1 as the color changes from red to yellow to green to cyan to blue to magenta and back to red again. Saturation S corresponds to color purity, and in the case of a pure color is equal to 100%. Value V is a measure of relative intensity of color, representing brightness of red, blue and green (RBG). (See Adler, paragraph 0023)

Spectral analyzer 22 calculates (step 104) the color components of each block: hue  $H_{sub.i,j}$ ; saturation  $S_{sub.i,j}$ ; and brightness value  $V_{sub.i,j}$  for each image. (See Adler, paragraph 0025)

Referring back to FIG. 4, distance calculator 26 then calculates (step 112) the Euclidian distance between each block in the matrix and blood reference value B. (See Adler, paragraph 0030)

As noted in Adler paragraph 0030 the distance calculation uses hue H, saturation S **and** V. That is, Adler does not use "generalized R and G colors" much less "non-luminance generalized R and G colors" as recited in claim 1.

As noted above, the present invention uses red (R) processing so that reddish spots may be detected. The parameters of hue H, saturation S and luminance V have a problem in detection and are not as effective as using color. For example, as long as the color (temperature) of a light source remains the same, the characteristics of the color will remain the same even when the light intensity or illumination level changes. When intensity changes in the Adler system the distance calculation is affected and thus the detection ability. By using "non-luminance generalized R and G colors" the negative effect of using brightness in Adler is removed.

Further, computing hue as is done in Adler is essentially a waste of resources. Because disease in these situations is known to be associated with reddish spots, there is no need to find the color spectrum (hue - dominant wavelength) of the image.

Nemeth, Kenet and Li have not been shown to teach or suggest the above discussed feature.

Independent claim 16 emphasizes "using non-luminance R and G color image processing algorithms" while independent claim 17 emphasizes "using non-luminance color image processing algorithms". It is submitted that the prior art of Yoki, Adler, Nemeth, Kenet and Li has not been shown to teach or suggest the features of claims 16 and 17.


Dependent claims 2-15 depend from the above-discussed independent claims and are patentable over the prior art for the reasons discussed above.

### **Summary**

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance, the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

For the reasons set forth above, it is believed that the application is in condition for allowance. Accordingly, reconsideration and favorable action are respectfully solicited.

Respectfully submitted,

  
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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Carestream Health, Inc. at 585/627-6687 or 585/627-6740.